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Identification mark for electric wires

Abstract:

The invention relates to a tubular conductor identification mark (1) and solves the problem to provide such a mark especially adapted for being mounted on very thin conductors (2). According to the invention the internal cavity of the mark is of substantially T-shaped configuration and the walls of the cavity are thin so that expansion to circular profile is facilitated. According to a special embodiment the mark has a cross-shaped profile, the additional fourth arm (5) completing the cross, defining a pocket for a separate marking plate (6) which can axially be inserted into a pocket (7).

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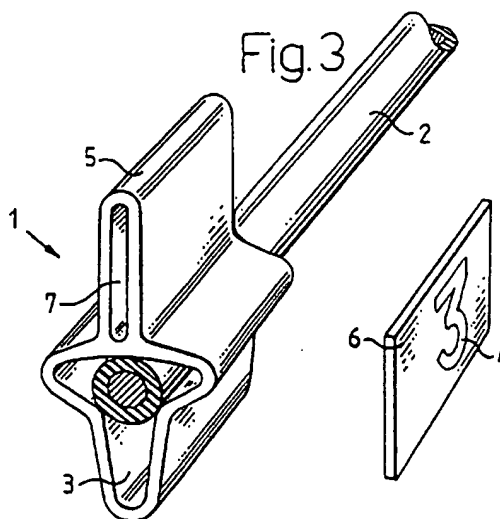
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⑤④ Identification mark for electric wires.

⑤⑦ The invention relates to a tubular conductor identification mark (1) and solves the problem to provide such a mark especially adapted for being mounted on very thin conductors (2). According to the invention the internal cavity of the mark is of substantially T-shaped configuration and the walls of the cavity are thin so that expansion to circular profile is facilitated. According to a special embodiment the mark has a cross-shaped profile, the additional fourth arm (5) completing the cross, defining a pocket for a separate marking plate (6) which can axially be inserted into a pocket (7).



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The present invention relates to a wire identification mark of the type consisting of a body closed in its circumferential direction like a sleeve or a ring and carrying identification symbols. It is manufactured by division into smaller units of an extruded hose of an elastic plastic material.

The development of such marks started during the period just after World War II and the use of such marks has thereafter continuously increased at rapid rate. Already during an early stage one realized the advantage of being in a position to use a mark of given size not only for conductors having a certain, predetermined diameter but also for conductors within a relatively wide diameter interval, for example 4-10 millimeters. That object was achieved in the way that the marking sleeves were provided with two structurally integral portions which, as counted in the circumferential direction of the sleeve, were located after each other and which were to carry out mutually different functions. The one portion of the mark, which was to perform the identification function, was provided with a substantially flat outer wall carrying the identification symbols, usually figures and/or letters, during the later years with the aid of an ink beam writer. The rest of the marking sleeve performs the holding function and makes possible use within a diameter interval. For that purpose the last-mentioned portion consists of a bellows-shaped section having a central seat. This receives the thinnest wire within the diameter interval at issue whereas, when the marking sleeve is used on the conductor having the maximum diameter, all of the sleeve wall is expanded to circular shape and is in contact with a conductor along all of the circumference.

The miniaturization of electric circuits and components going on during later years has resulted in a corresponding reduction of the diameters of the connecting wires and, since, also of the size of the identification marks. It has however, especially for manufacturing and handling reasons, proved difficult to achieve that size matching by simply scaling down marks designed for thicker conductors. This does in any case apply to the very thinnest wires having a diameter of one or a few millimeters. For that reason it has in such applications since long been considered necessary to choose for the marking sleeves an external dimension substantially greater than the wire diameter. The resulting greater relative wall thickness has, however, in turn resulted in a reduced flexibility and expansion capacity so that the field of use of a given sleeve has been limited to a very narrow diameter interval, for practical purposes almost to one single diameter value.

The object of the invention is to provide a wire identification mark, especially for very thin wires, which does not suffer from the disadvantages above mentioned. It is mainly characterized therein that the cross-section of its internal cavity is substantially

shaped like a T.

Three embodiments of the invention will now be described with reference to the drawing, the three figures of which does each illustrate one embodiment, in all cases a wire identification mark mounted on a thin electric conductor or wire.

Fig. 1 shows a mark 1 mounted on a wire 2. Its internal cavity 3 does essentially have a T-profile, the ends of the T being located in the corners of an essentially equilateral triangle. The two walls between which the stem of the imaginary T is located have concave outer walls whereas the top wall, corresponding to the horizontal bar of the T, is defined by a somewhat convexed outer surface carrying the identification symbol 4. The drawing shows that the relatively thin walls can be forced apart to a circular internal shape so that the mark can be mounted on a considerably thicker wire and on wires having all intermediate diameter sizes.

According to the embodiment shown in fig. 2 the stem of the T is considerably greater than in fig. 1 and the identification symbol 4 is here located on the outer wall of that extended portion, in the practice usually on both of its lateral sides. This configuration increases the maximum cross-sectional area of cavity 3 and hence also the usable diameter interval.

Fig. 3 shows a mark having a cavity of the same general shape as in fig. 1. However, the profile is cross-shaped because opposite the portion extending downwards there is a portion 5 directed upwards and defining a pocket 7 for a marking plate 6 which can be inserted in the axial direction. When such a mark is extruded, a transparent plastic material is used.

Claims

1. A conductor identification mark, particularly for marking a very thin conductor or wire (2) which, when the mark is mounted thereon, passes through the circumferentially closed internal cavity (3) of the mark, the wire-receiving cross-sectional area of the cavity being variable within a diameter interval due to the mark being manufactured from an elastic plastic material, characterized therein, that the cross-sectional shape of cavity (3) is substantially like a T.
2. An identification mark as claimed in Claim 1, characterized therein, that also the outer sides of the walls defining said cavity (3) do substantially have a T-profile.
3. An identification mark as claimed in Claim 1 and manufactured from a transparent plastic material, characterized therein, that its cross-section is substantially like a cross, one (5) of the four arms

of said cross enclosing a pocket (7) for a marking plate (6).

4. An identification mark as claimed in Claim 1 or 2, **characterized** therein, that marking symbols (4) are located on the external side of the portion corresponding to the horizontal bar of the T. 5
5. An identification mark as claimed in Claim 1 or 2, **characterized** therein, that marking symbols (4) are located on the external side of the portion corresponding to the vertical stem of the T. 10

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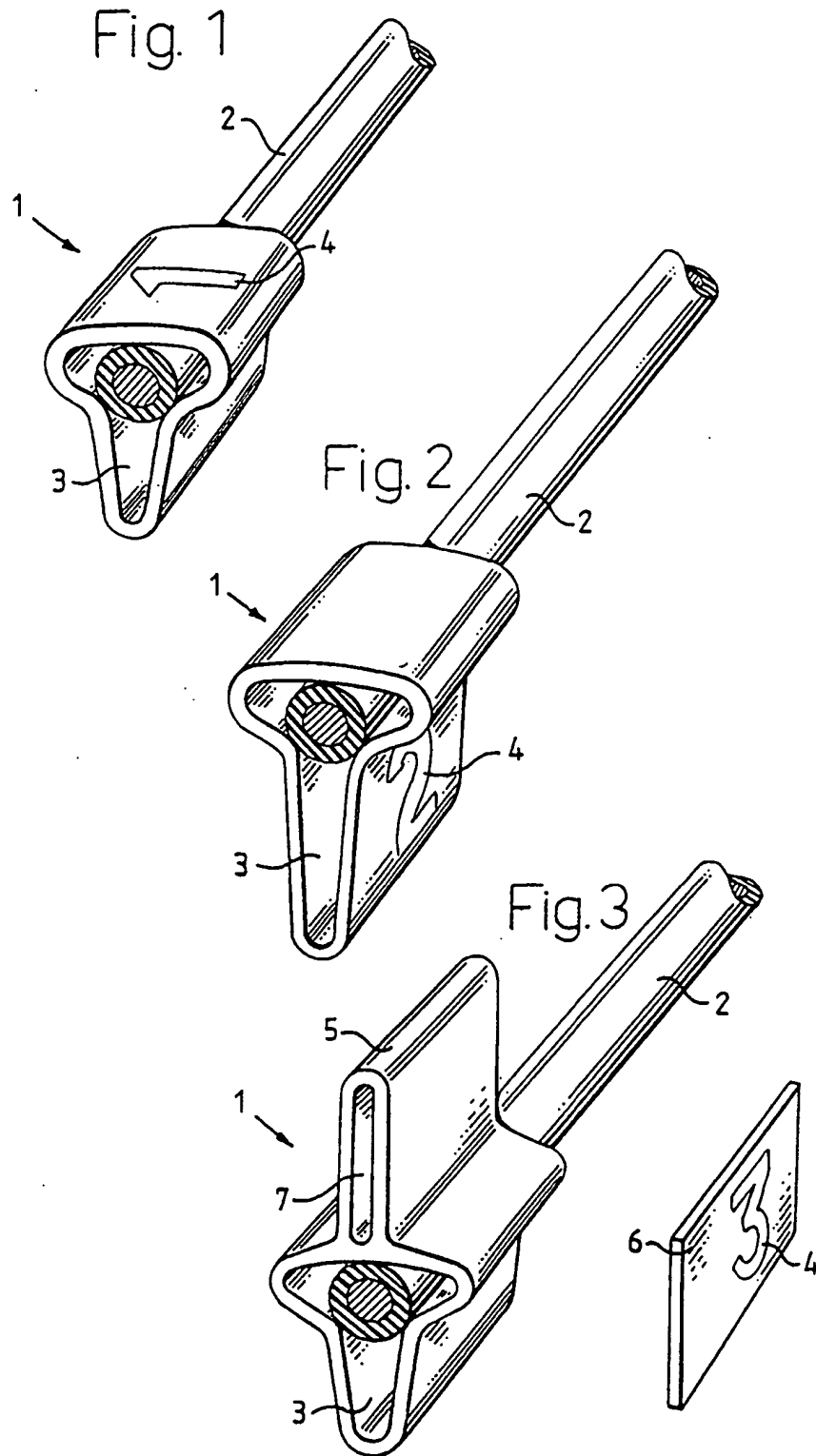
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European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 93 85 0082

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 199 884 (LÖÖF) * column 1, line 6 - column 4, line 4; figures 1,3,4 *	1,5	G09F3/02 H01B7/36
A	FR-A-2 490 032 (PARTEX FABRIKSAKTIEBOLAG) * page 3, line 16 - page 5, line 5; figures 1A,1B *	1,4,5	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G09F H01B
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 28 JUNE 1993	Examiner TAYLOR P.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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